



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2013-0298; Directorate Identifier 2012-NM-175-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes. This proposed AD was prompted by reports of dual alternating current (AC) generator failure during flight. The failure was attributed to wire chafing along the wing lower flap shroud. This proposed AD would require revising the maintenance program to incorporate certain tasks for the electrical wiring interconnection system inspection program. We are proposing this AD to prevent failure of both AC generators due to wire chafing, which could result in loss of power to the anti-icing heaters for the elevator horn, engine inlet, and propeller, and consequent ice accumulation in these areas, which could adversely affect the controllability of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Services Branch, ANE-172, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7301; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0298; Directorate Identifier 2012-NM-175-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-25, dated August 28, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

There have been several reported occurrences of dual [alternating current] AC Generator failure during flight, resulting in the loss of the variable frequency AC System.

Investigations revealed wire chafing along the wing lower flap shroud due to sagging wiring harnesses resting on the support structure, missing teflon tape at the fairlead locations, and missing grommets. Chafed wires may lead to arcing, local overheating, and AC generator failure. The AC generators provide power to the anti-icing heaters, including elevator horn heater, engine inlet heater and propeller heater. Failure of both AC generators would result in the loss of these systems and poses a safety concern.

This [Canadian] AD mandates the inspection and rectification of the wiring harness installations along the centre wing lower flap shroud.

Required actions include revising the maintenance program by incorporating electrical wiring interconnection system inspection program tasks.

### **Relevant Service Information**

Bombardier, Inc. has issued the following service information:

- de Havilland Dash 8 Series 100 Maintenance Task Card 531X1, Revision 25, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-8-7, dated February 20, 2012.

- de Havilland Dash 8 Series 100 Maintenance Task Card 631X1, Revision 25, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-8-7, dated February 20, 2012.

- de Havilland Dash 8 Series 200 Maintenance Task Card 531X1, Revision 16, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-82-7, dated February 20, 2012.

- de Havilland Dash 8 Series 200 Maintenance Task Card 631X1, Revision 16, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-82-7, dated February 20, 2012.

- de Havilland Dash 8 Series 300 Maintenance Task Card 531X1, Revision 25, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-83-7, dated February 20, 2012.

- de Havilland Dash 8 Series 300 Maintenance Task Card 631X1, Revision 25, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual, PSM 1-83-7, dated February 20, 2012.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because

we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

This proposed AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by section 91.403(c) of the Federal Aviation Regulations (14 CFR 91.403(c)). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, an operator might not be able to accomplish the inspections described in the revisions. In this situation to comply with 14 CFR 91.403(c), the operator must request approval of an alternative method of compliance (AMOC) in accordance with the provisions of paragraph (j)(1) of this proposed AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure.

### **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 89 products of U.S. registry. We also estimate that it would take about 1 work-hour per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$7,565, or \$85 per product.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Bombardier, Inc.:** Docket No. FAA-2013-0298; Directorate Identifier 2012-NM-175-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, certificated in any category, serial numbers 003 and subsequent.



**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 24, Electrical power.

**(e) Reason**

This AD was prompted by reports of dual alternating current (AC) generator failure during flight. The failure was attributed to wire chafing along the wing lower flap shroud. We are issuing this AD to prevent failure of both AC generators due to wire chafing, which could result in loss of power to the anti-icing heaters for the elevator horn, engine inlet, and propeller, and consequent ice accumulation in these areas, which could adversely affect the controllability of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Maintenance Program Revision**

Within 30 days after the effective date of this AD: Revise the airplane maintenance program by incorporating de Havilland Dash 8 Maintenance Task Cards 531X1 and 631X1, General visual inspection of the wiring and associated electrical wiring interconnection system (EWIS), in Section 8, Electrical Wiring Inspection Program, of Part 1, Maintenance Review Board Report into the applicable maintenance program manual specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD.

(1) For Model DHC-8-100 series airplanes: Bombardier DHC-8 Maintenance Program Manual PSM 1-8-7, Revision 25, dated February 20, 2012.

(2) For Model DHC-8-200 series airplanes: Bombardier DHC-8 Maintenance Program Manual PSM 1-82-7, Revision 16, dated February 20, 2012.

(3) For Model DHC-8-300 series airplanes: Bombardier DHC-8 Maintenance Program Manual PSM 1-83-7, Revision 25, dated February 20, 2012.

**(h) Initial Task Compliance Time**

The initial compliance time for the tasks specified in the maintenance task cards specified in paragraph (g) of this AD is at the applicable time specified in paragraph (h)(1) or (h)(2) of this AD.

(1) For airplanes with 45,000 total flight hours or more as of the effective date of this AD: Within 1,000 flight hours after the effective date of this AD.

(2) For airplanes with less than 45,000 total flight hours as of the effective date of this AD: Within 6,000 flight hours after the effective date of this AD, but not to exceed 46,000 total flight hours.

**(i) No Alternative Actions or Intervals**

After accomplishing the revisions required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used, unless the actions and intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(k) Related Information**

(1) Refer to MCAI Canadian Airworthiness Directive CF-2012-25, dated August 28, 2012, and the service information specified in paragraphs (k)(1)(i) through (k)(1)(vi) of this AD, for related information.

(i) de Havilland Dash 8 Series 100 Maintenance Task Card 531X1, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual PSM 1-8-7, Revision 25, dated February 20, 2012.

(ii) de Havilland Dash 8 Series 100 Maintenance Task Card 631X1, in Section 8, Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance

Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual  
PSM 1-8-7, Revision 25, dated February 20, 2012.

(iii) de Havilland Dash 8 Series 200 Maintenance Task Card 531X1, in Section 8,  
Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance  
Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual  
PSM 1-82-7, Revision 16, dated February 20, 2012.

(iv) de Havilland Dash 8 Series 200 Maintenance Task Card 631X1, in Section 8,  
Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance  
Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual  
PSM 1-82-7, Revision 16, dated February 20, 2012.

(v) de Havilland Dash 8 Series 300 Maintenance Task Card 531X1, in Section 8,  
Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance  
Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual  
PSM 1-83-7, Revision 25, dated February 20, 2012.

(vi) de Havilland Dash 8 Series 300 Maintenance Task Card 631X1, in Section 8,  
Electrical Wiring Interconnection System Inspection Program, of Part 1, Maintenance  
Review Board Report, of the Bombardier DHC-8 Maintenance Program Manual,  
PSM 1-83-7, Revision 25, dated February 20, 2012.

(2) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on March 28, 2013.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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